

natural forms. Accordingly, there has been attempted to reduce the fishy smell by emulsifying or coating.

Further, carotene-rich vegetables are noticed as an important supply source of vitamins and minerals but often
5 disliked because of their raw smell. Garlic having a strong smell and old rice having a particular smell due to oxidation or the like during a storage period are also disliked.

According to development in wrapping materials and processing techniques, various food forms have been provided. A
10 retort-pouched food, which is a typical example thereof, has a problem of a particular smell called a retort smell.

Since animal meats emit a strong smell particular to them, processed food products containing a large amount of them as a material tend to be disliked. Among the animal meats, mutton is
15 inexpensive and easily used as a material for processed livestock products. Accordingly, its utility value increases if the smell of the mutton can be masked.

Powdered skim milk and WPC (Whey Protein Concentrate) are noticed as low fat products as compared with milk so that they
20 are widely utilized as materials for livestock products, marine products, soup, desserts and the like. However, they have powdery flavor and smell particular to them, so that an addition amount thereof to food is limited.

On the other hand, sodium gluconate is known as an
25 additive to a coagulating agent for Tofu. Calcium gluconate is widely used as a calcium supplement. Further, sodium gluconate is known as being effective in improving flavor of high potency sweetener (aspartame, α -L-aspartyl-L-phenylalanine methylester) (International Patent Application No. WO94/09650),

but not recognized as an agent for masking bitterness or odor.

It has been reported that polyphenol or trehalose is effective in masking the odor. However, the effect is not satisfactory.

Some organic acid salts such as sodium malate, sodium lactate,
5 sodium citrate and the like are recognized as reducing the odor,
but the organic acid salts themselves have strong flavors,
respectively, so that they cannot be used for masking the odor.

Therefore, there has been expected development of a strong
masking agent capable of reducing unpleasant flavor or odor.

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Disclosure of the Invention

The inventors of the present invention have found a
masking agent containing a nontoxic salt of gluconic acid as an
active ingredient, an oral ingestible product added with the
15 masking agent, and a method of masking flavor or odor of the oral
ingestible product by adding the masking agent.

According to the invention, the oral ingestible product is an
object to be ingested through the mouth of a human being.
Typical examples thereof include foods, drinks, favorite foods, food
20 additives, drugs and the like. The masking agent of the present
invention masks odor or flavor, or both of them that are not
suitable for a human taste.

Examples of the nontoxic salts of gluconic acid include
alkali metal salts of gluconic acid such as sodium gluconate,
25 potassium gluconate and the like, and alkali earth metal salts of
gluconic acid such as calcium gluconate, magnesium gluconate
and the like. Among them, sodium gluconate and calcium
gluconate are particularly preferable.

The masking agent of the present invention may be

formulated in the form of powder, granule, tablet, solution and the like solely from the gluconic acid salt or by appropriately mixing the gluconic acid salt with various additives or media according to a conventional method. The content of the gluconic acid salt in these formulations is optionally determined.

Examples of the additives used for formulating the masking agent in the form of powder, granule or tablet include: dietary fibers such as apple fiber, corn fiber, alginic acid, carrot powder, pectin, seaweed polysaccharide, carboxymethyl cellulose and the like; excipients such as lactose, starch and the like; sweeteners such as saccharose, maltose, fructose, sorbitol, mannitol, stevioside, aspartame and the like; nutrition supplements such as vitamin, mineral, milk powder, meat extract and the like; flavoring agents; binders such as powdered acacia, polyvinyl pyrrolidone, hydroxypropyl cellulose and the like; and lubricants such as magnesium stearate, calcium stearate, talc and the like. One or plural kinds of them may appropriately be selected for use.

The solution formulation can be obtained in general by dissolving or suspending the gluconic acid salt in a solvent capable of dissolving it. Examples thereof include water, alcohols such as ethanol, propylene glycol and the like.

A method of adding the gluconic acid salt to the oral ingestible product to be masked is not particularly limited. It may be carried out optionally by mixing, sprinkling or spraying the gluconic acid salt to the object or a material thereof during processing, cooking or ingesting the object.

An addition amount of the masking agent may suitably be increased or decreased depending on the type and strength of the flavor and odor of the object. An effective addition amount can be